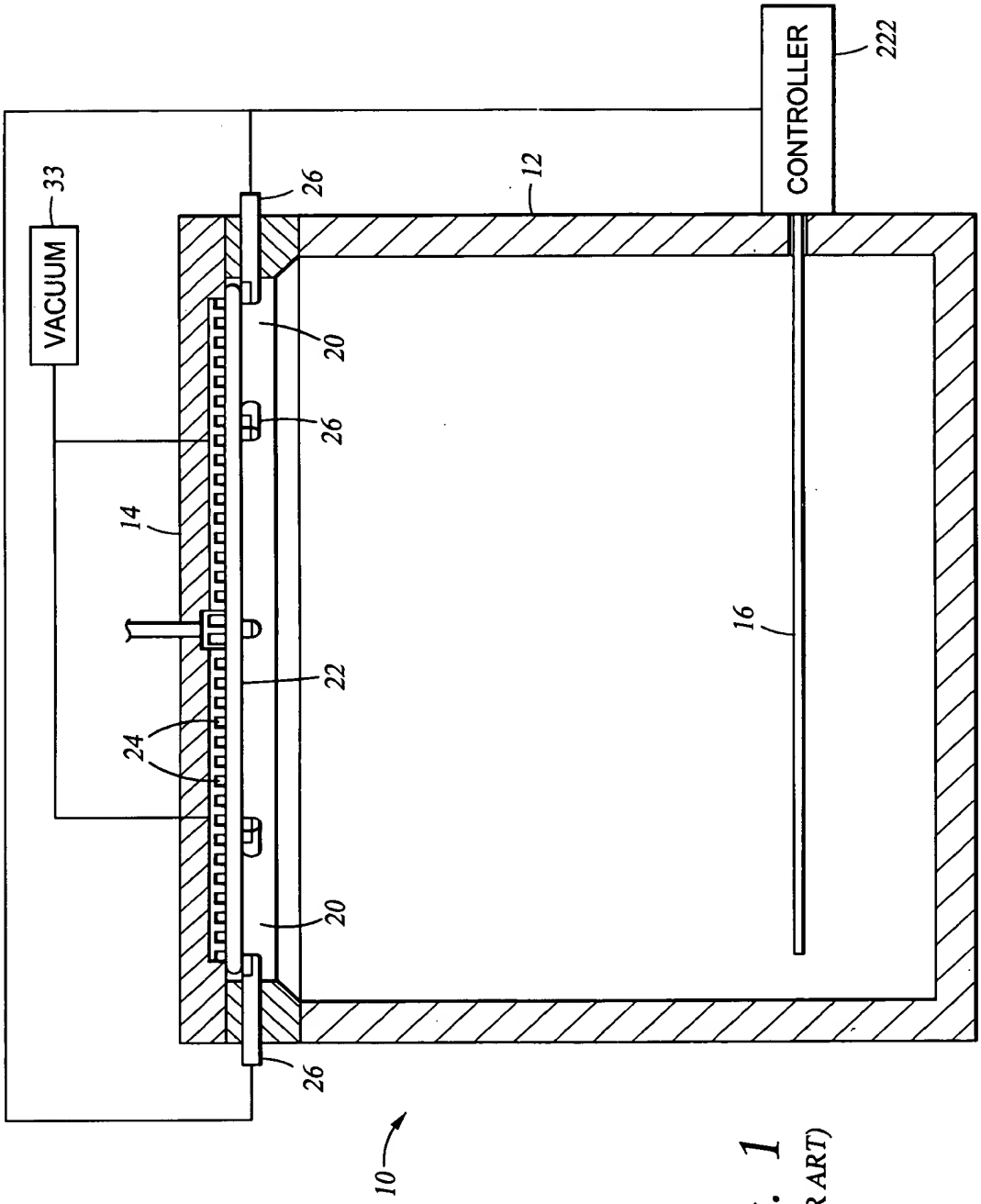
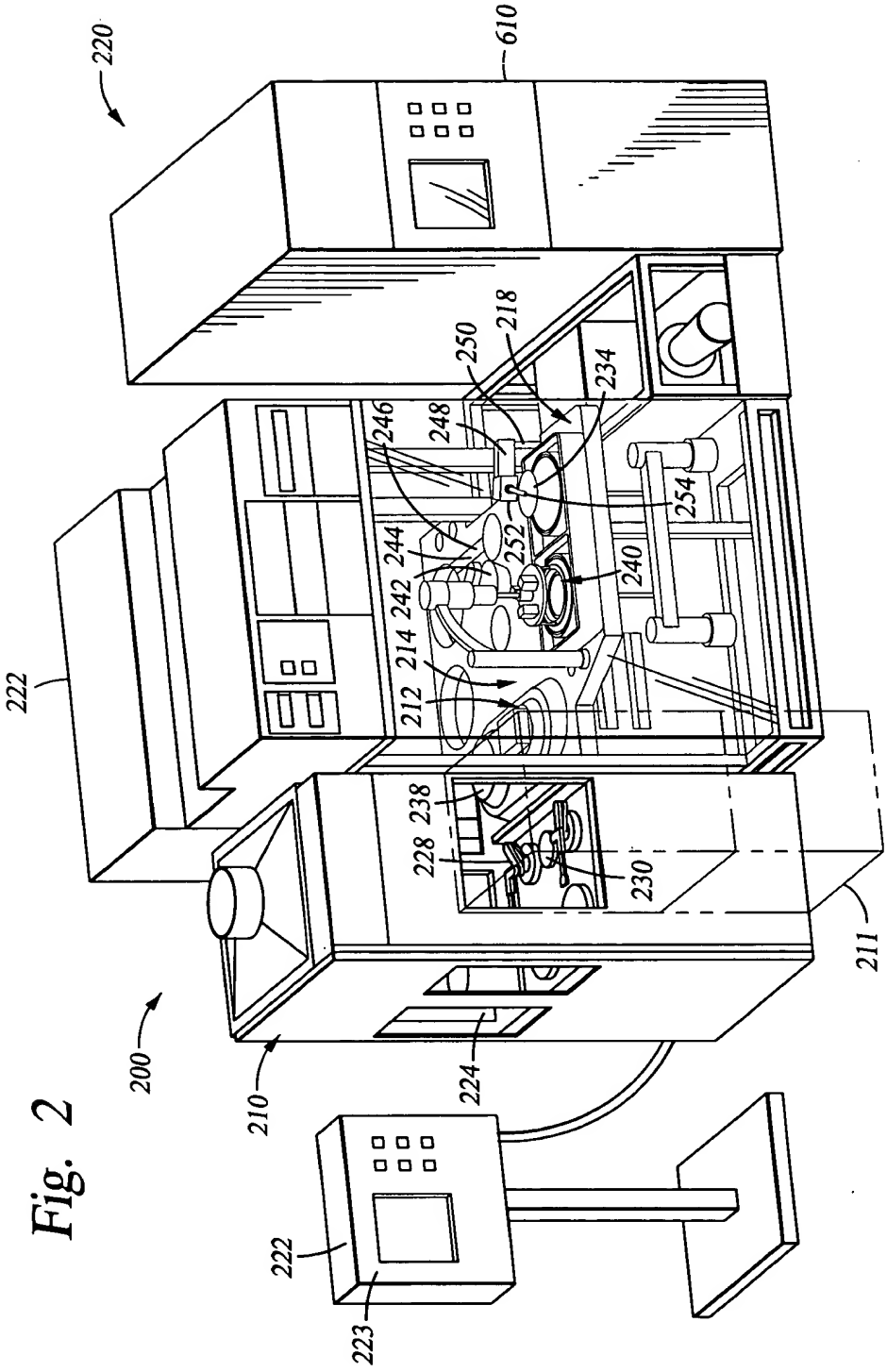


Fig. 1
(PRIOR ART)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610
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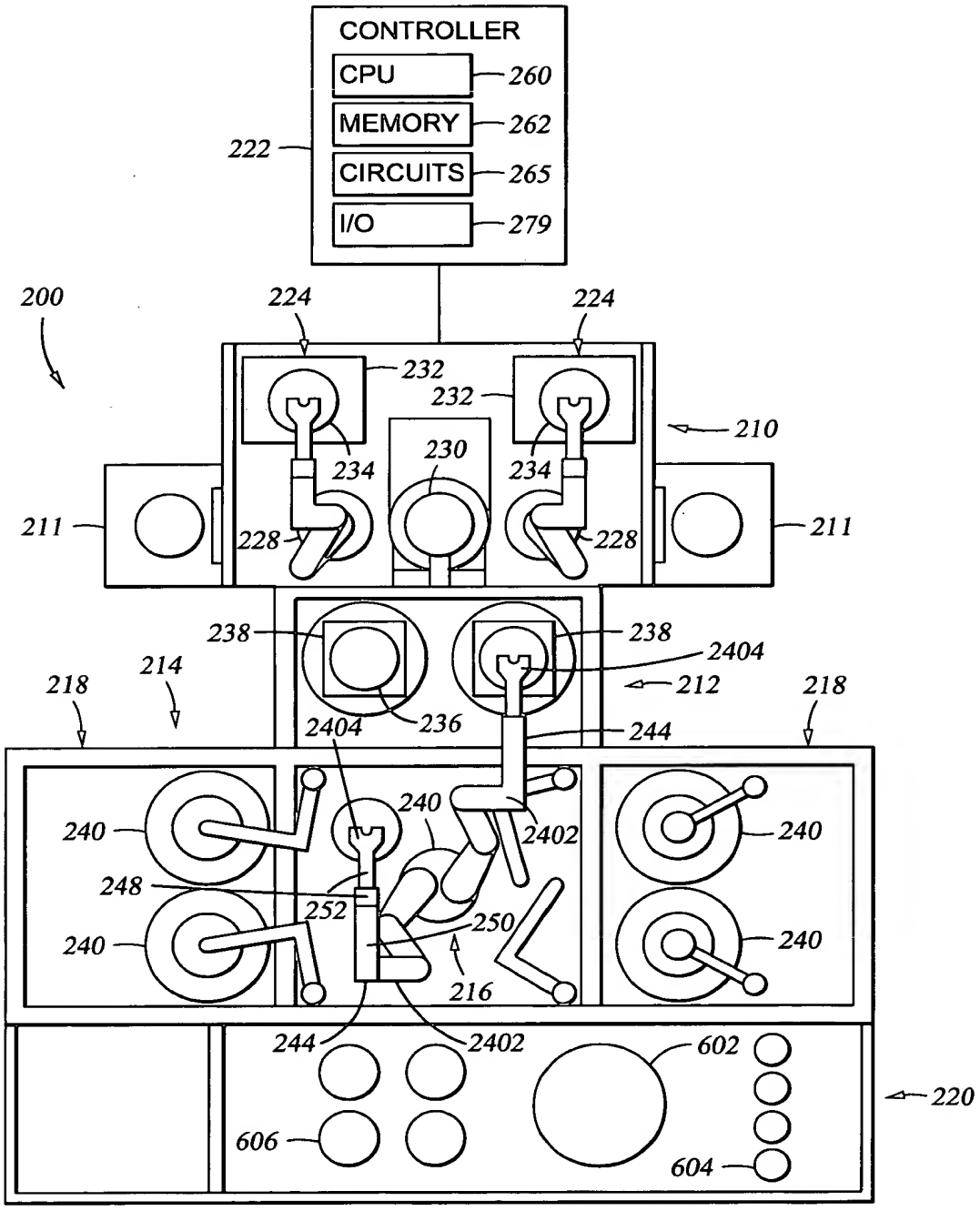
200
210
224
222
223

Fig. 2


CONTROLLER
CPU
MEMORY
CIRCUITS
I/O
260
262
265
279
222
200
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224
232
232
210
234
230
234
211
228
228
211
238
238
2404
214
212
218
218
2404
236
244
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2402
240
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252
250
240
240
216
244
2402
602
220
606
604

Fig. 3

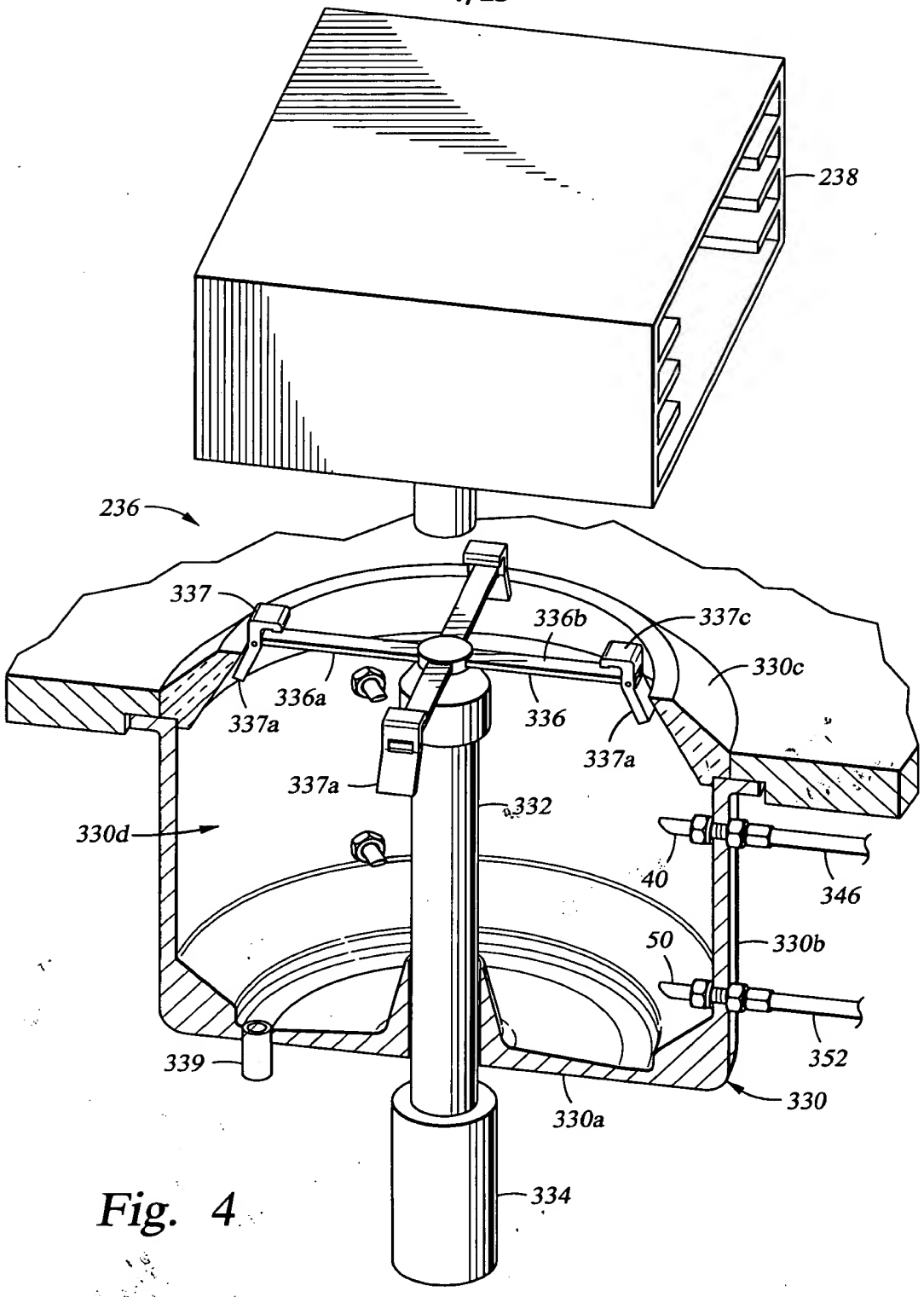
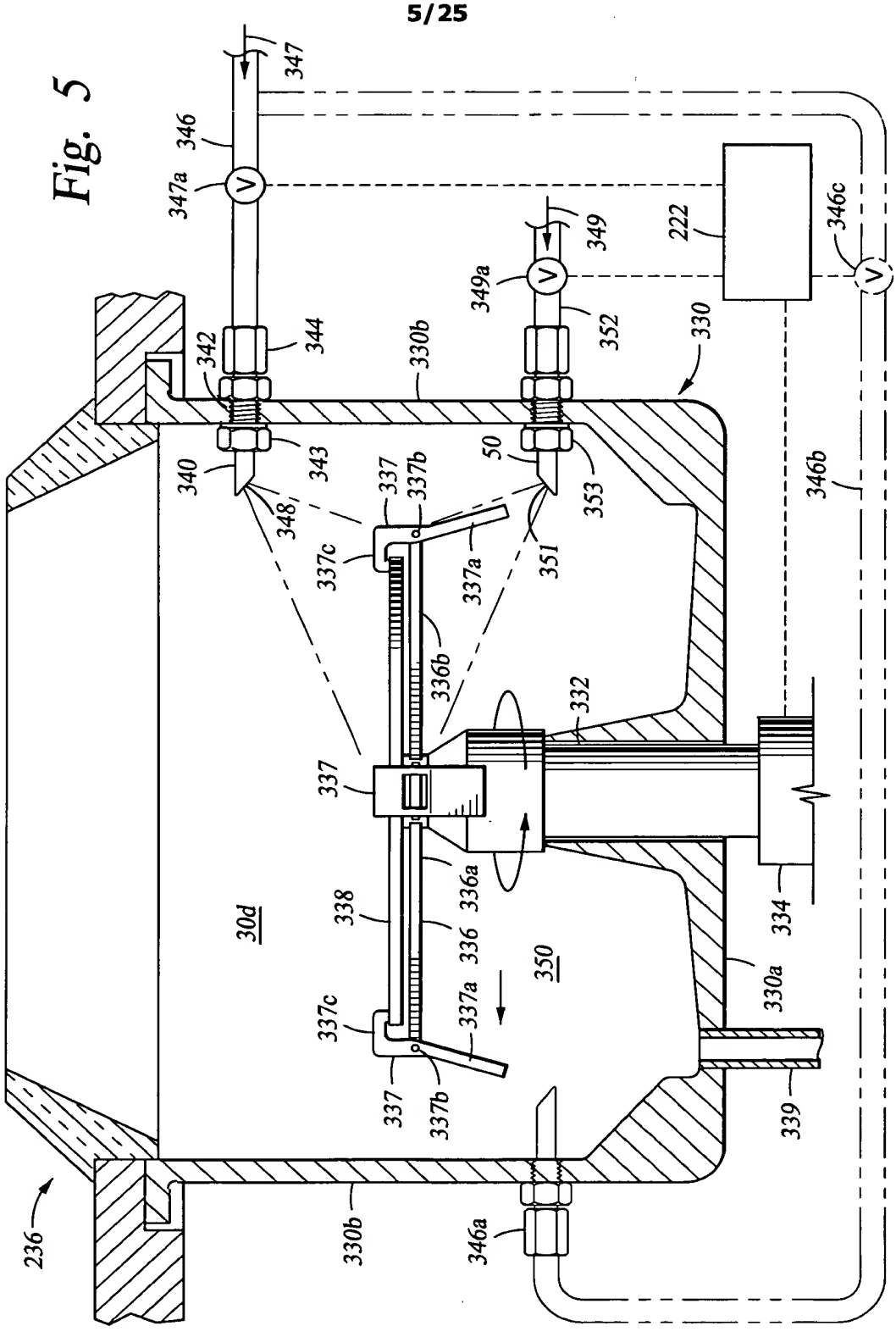

238
236
337
336b
337c
330c
336a
337a
336
337a
337a
332
330d
40
346
50
330b
339
352
330
330a
334

Fig. 4

Fig. 5


347
346
347a
346c
222
349
349a
352
330
342
344
330b
340
343
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337b
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353
348
337c
337a
351
346b
336b
332
337
336a
338
336
30d
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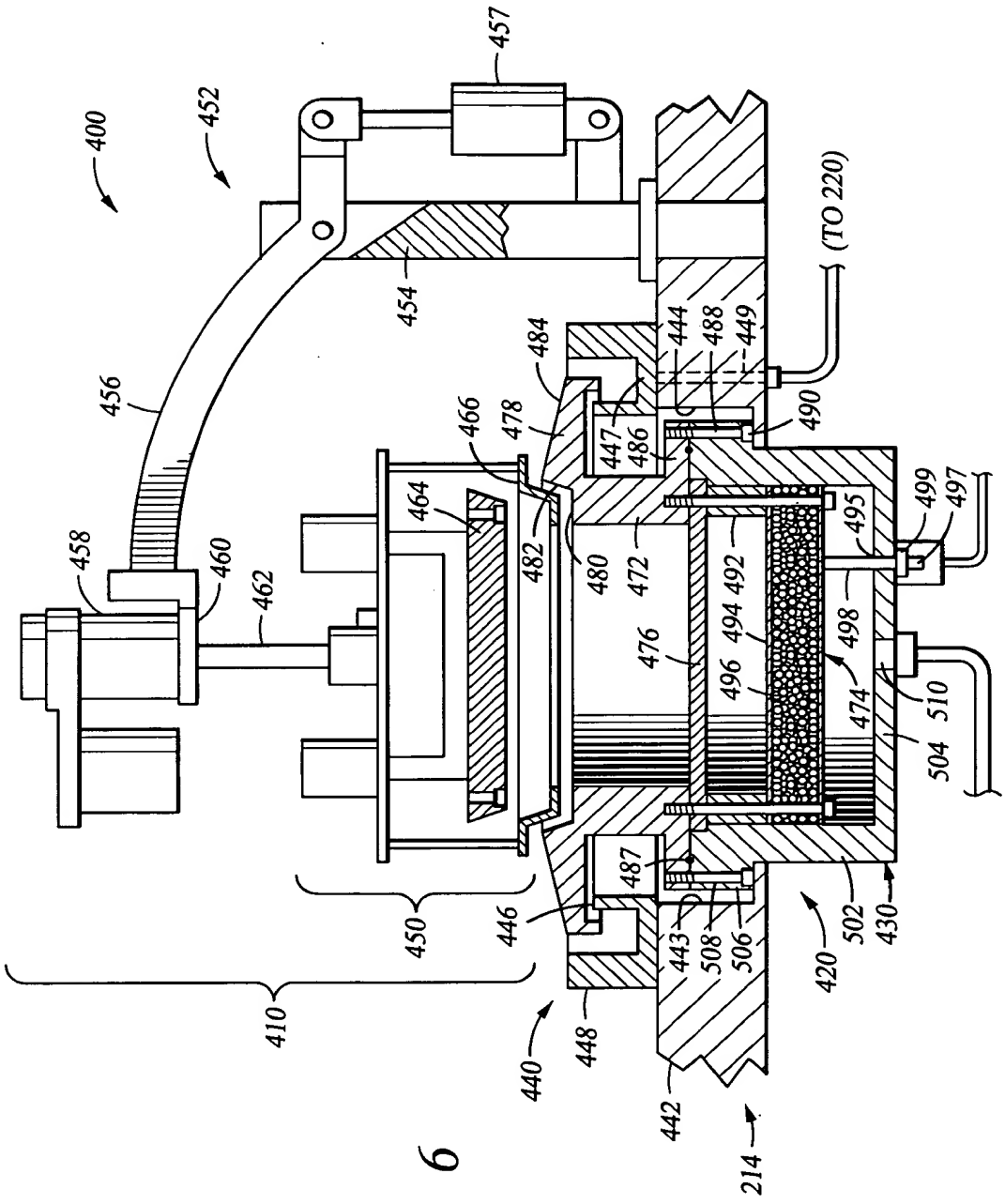
334
330a
337c
337a
337
337b
339
236
330b
346a


400
452
457
454
456
458
460
462
(TO 220)
444
488
449
484
490
466
478
447
486
464
482
480
472
495
499
497
492
494
498
476
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442
214

Fig. 6

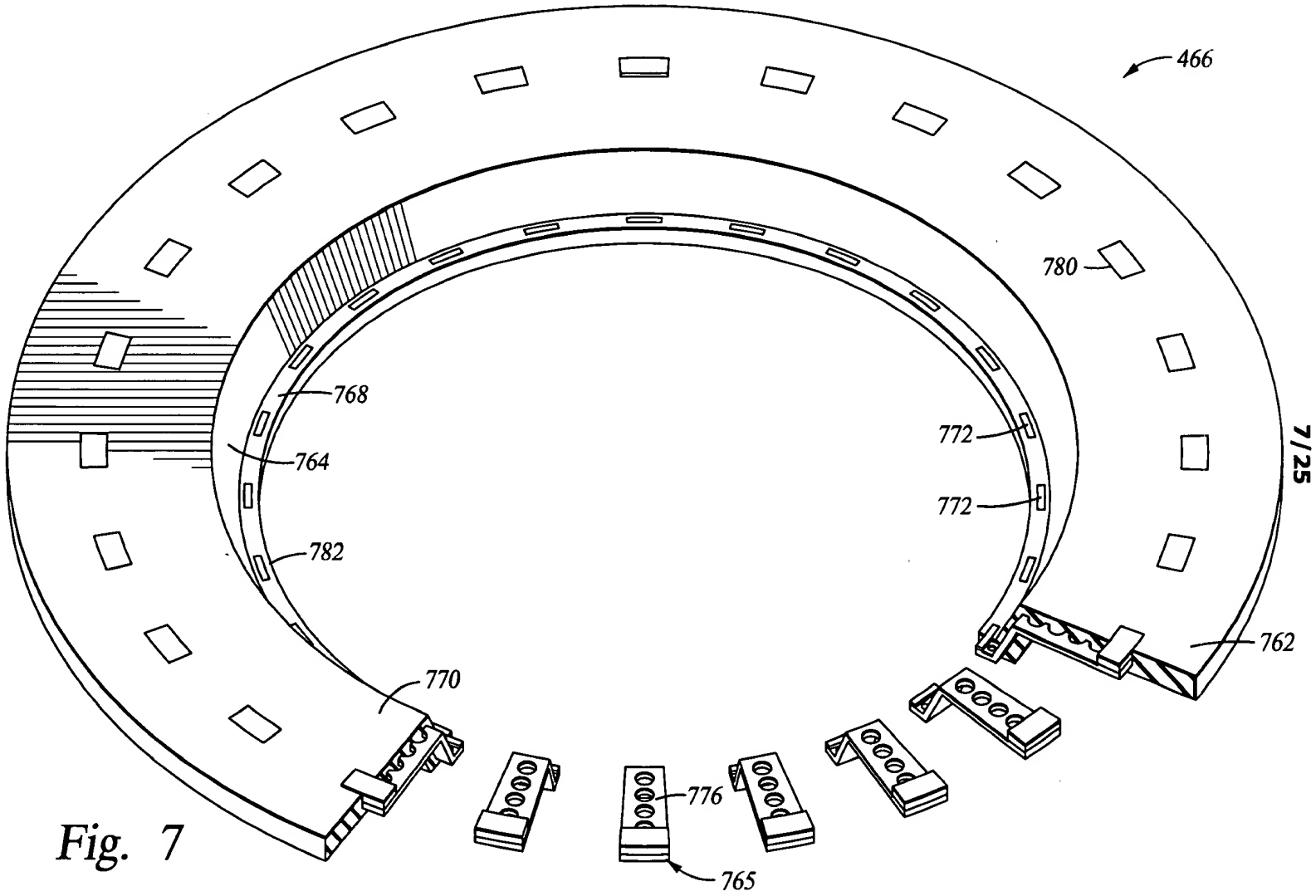


Fig. 7

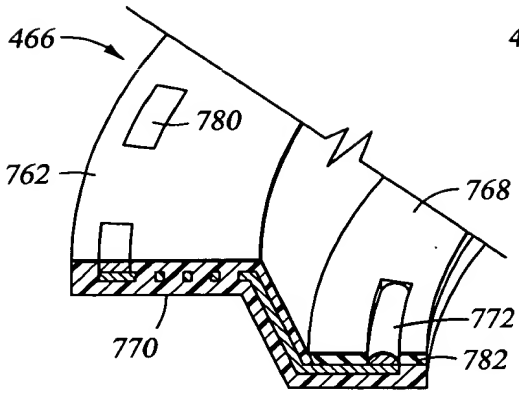


Fig. 8

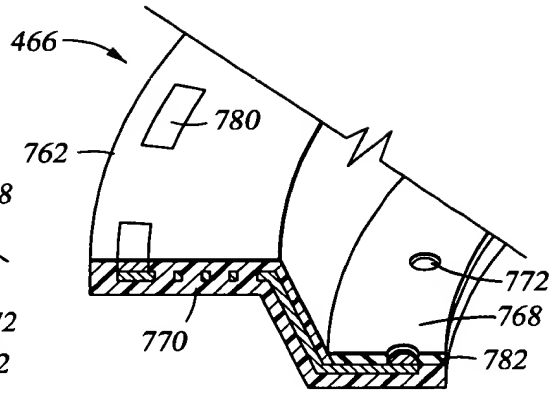


Fig. 9

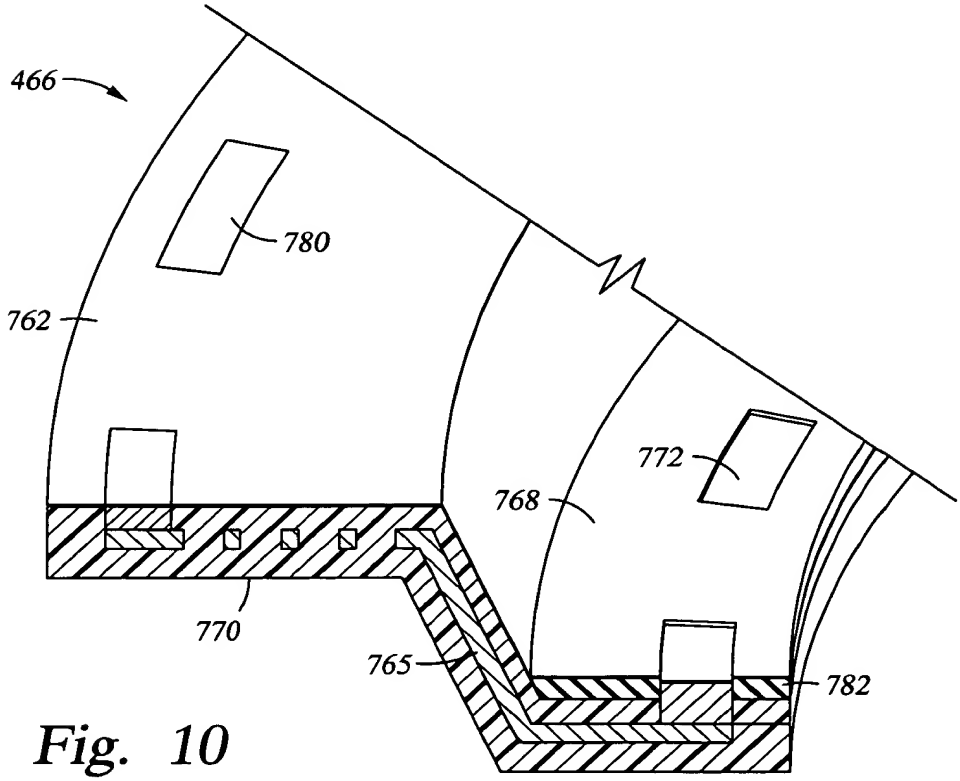


Fig. 10

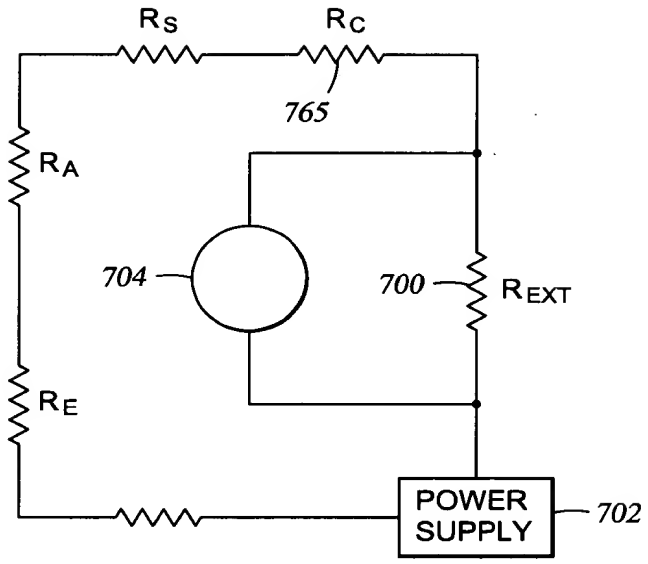


Fig. 11

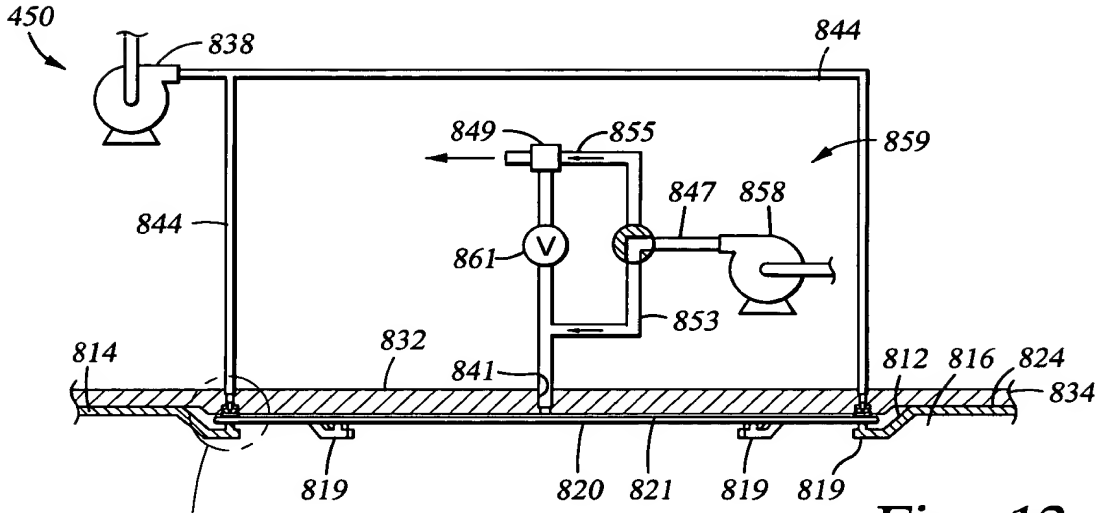


Fig. 12

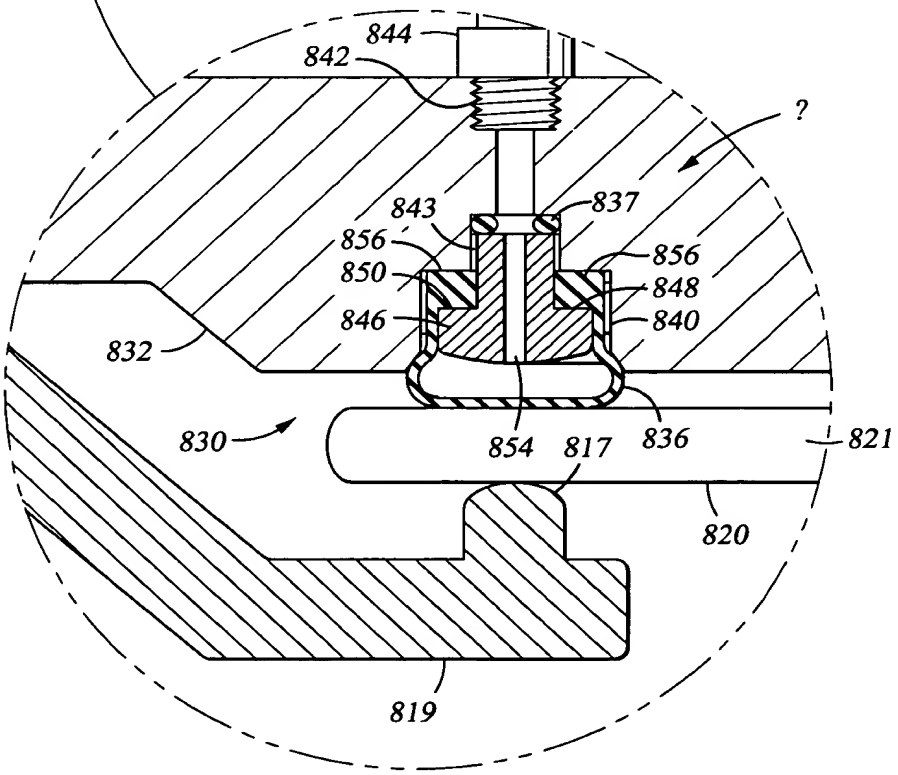


Fig. 12A

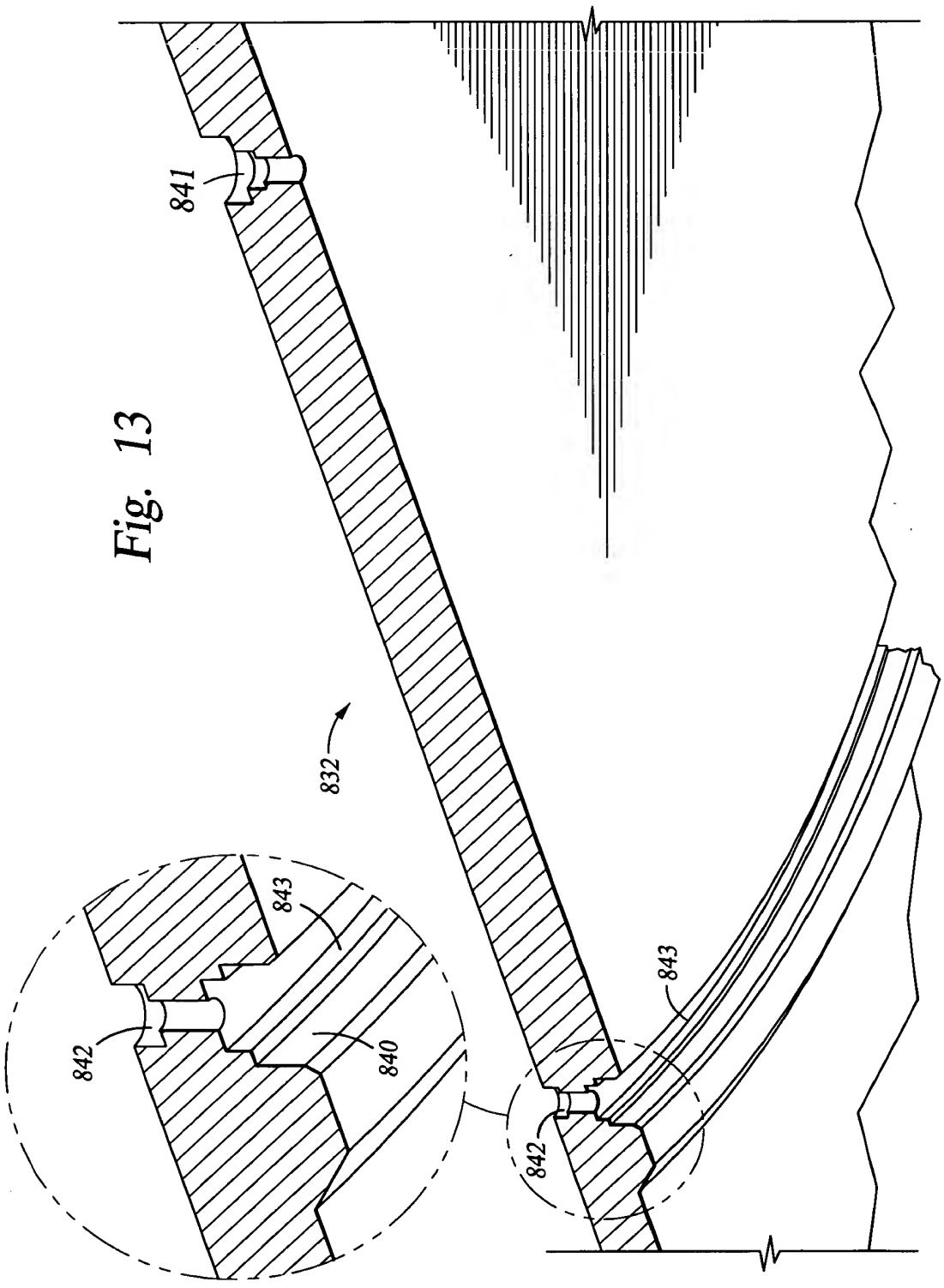


Fig. 13

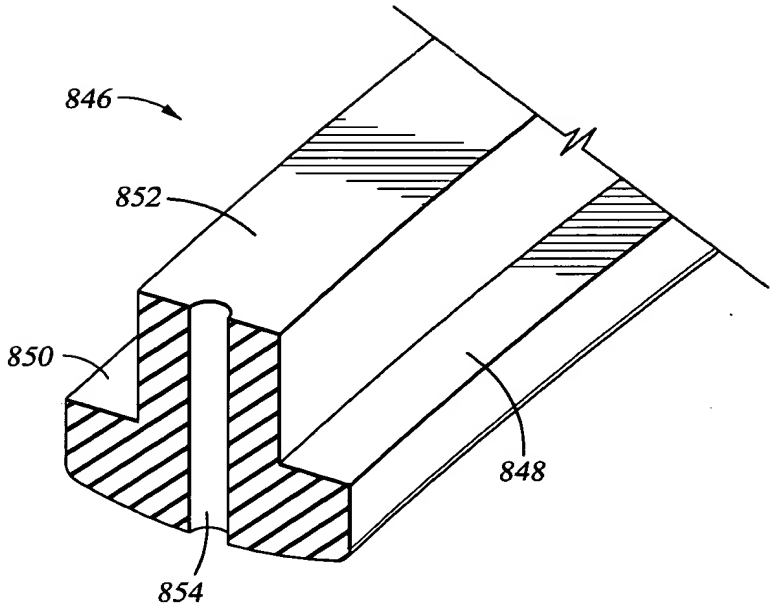


Fig. 14

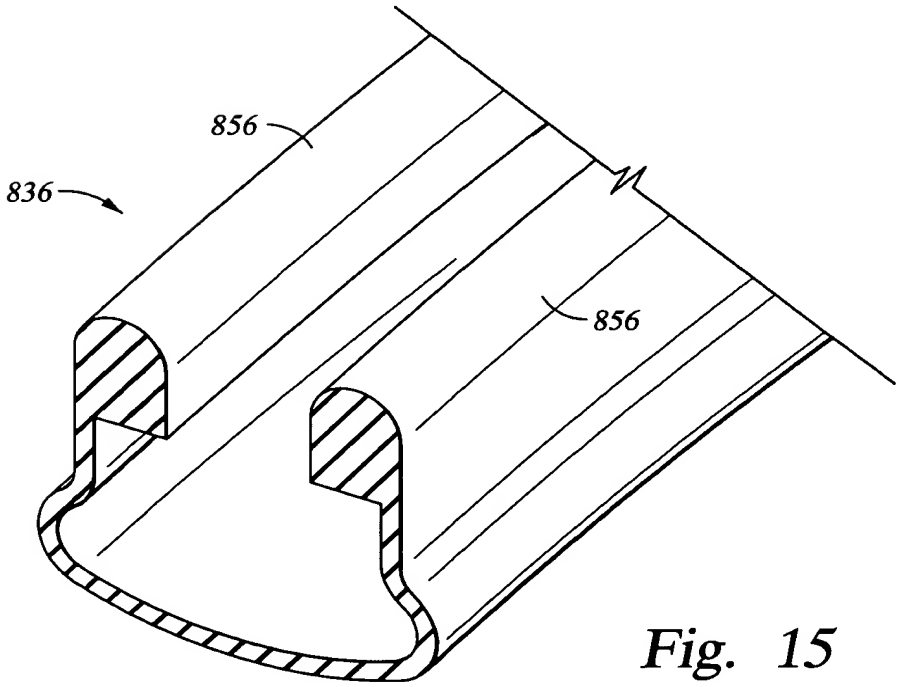


Fig. 15

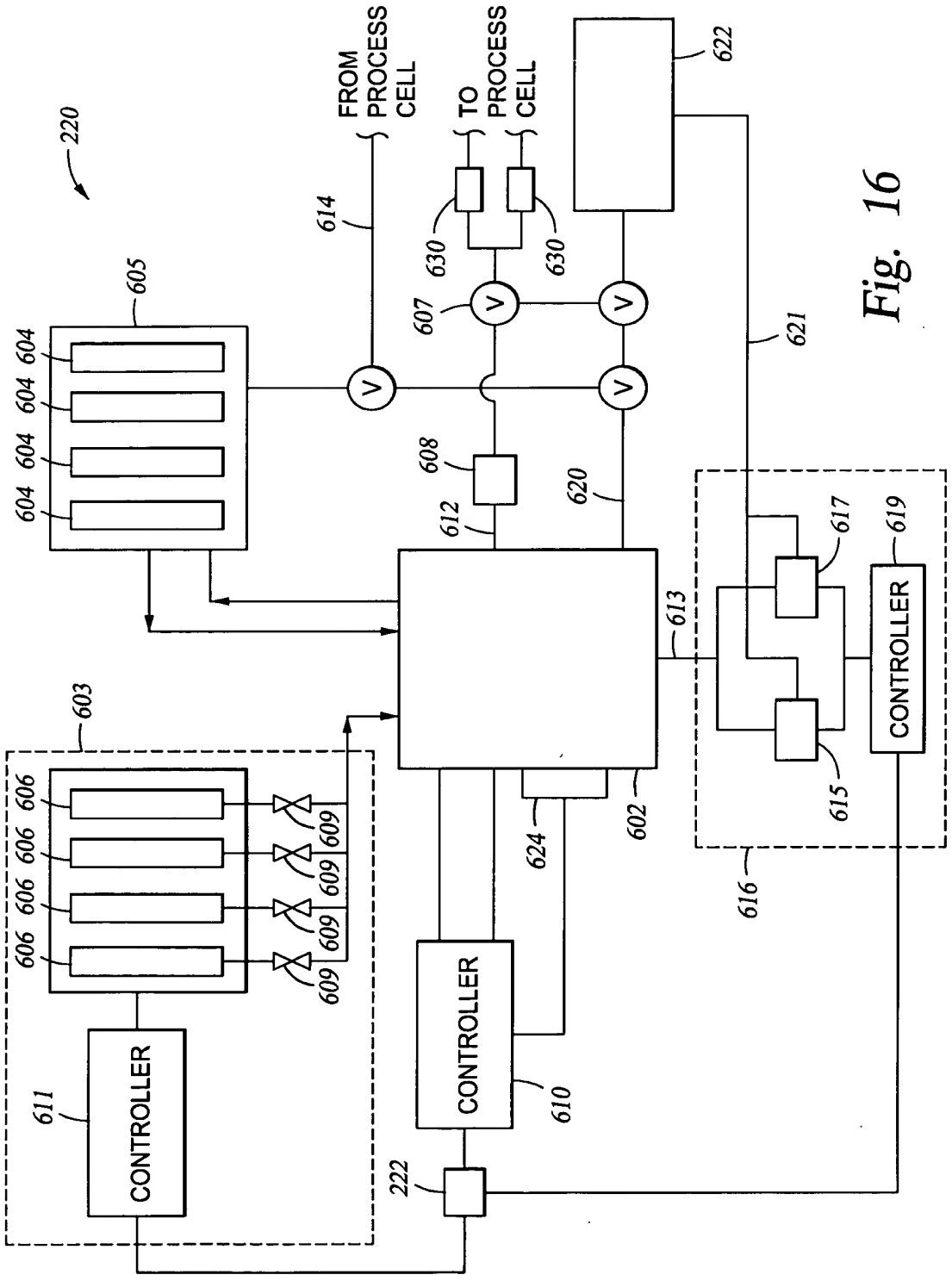

220
FROM PROCESS CELL
TO PROCESS CELL
614
630
630
622
605
604
604
604
604
607
621
608
612
620
613
603
606
606
606
606
609
609
609
609
617
619
CONTROLLER
615
624
602
616
CONTROLLER
610
611
CONTROLLER
222

Fig. 16

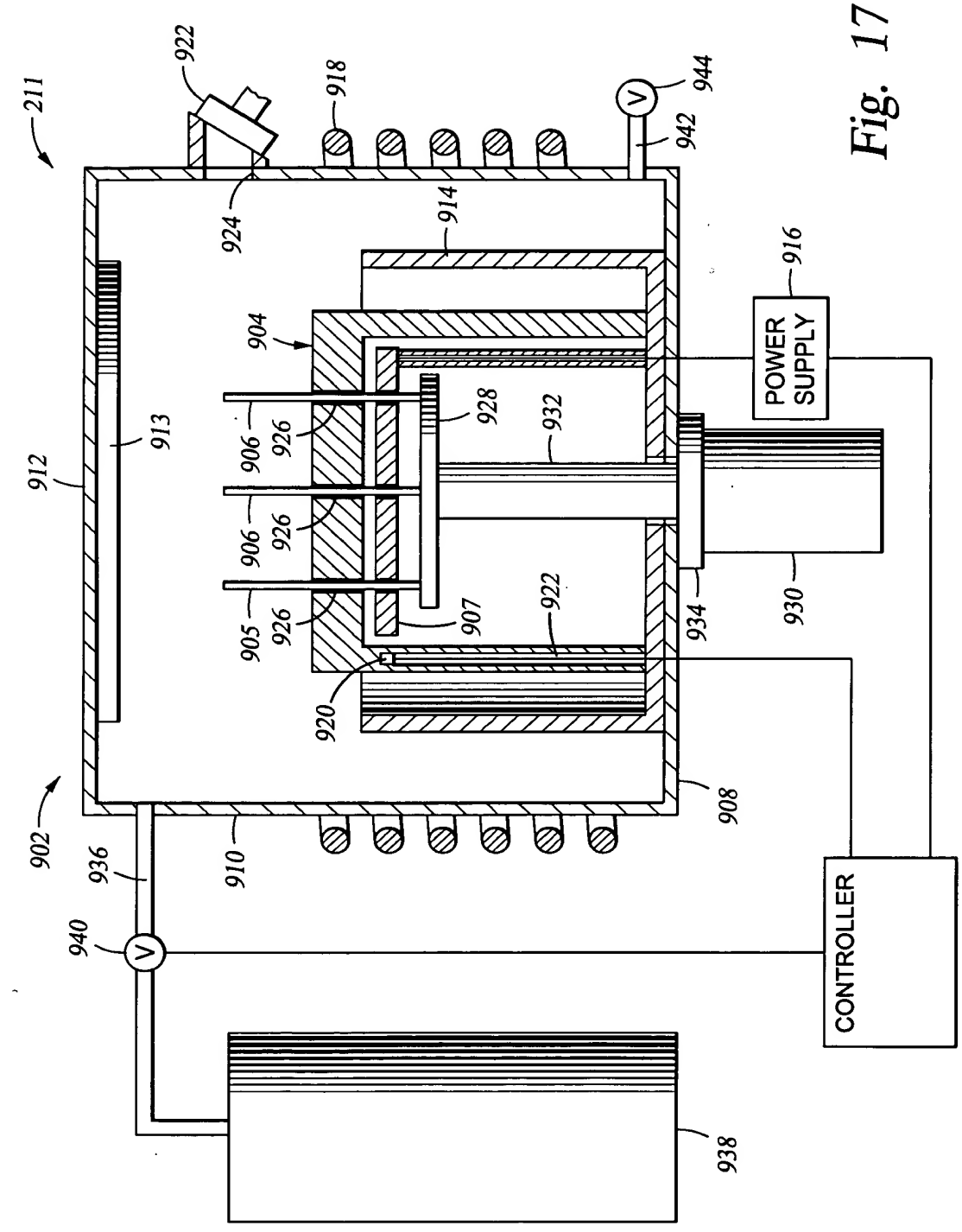

211
922
918
944
942
924
914
916
904
POWER SUPPLY
928
932
913
912
906
926
906
926
905
926
907
922
934
930
920
908
902
910
936
940
CONTROLLER
938

Fig. 17

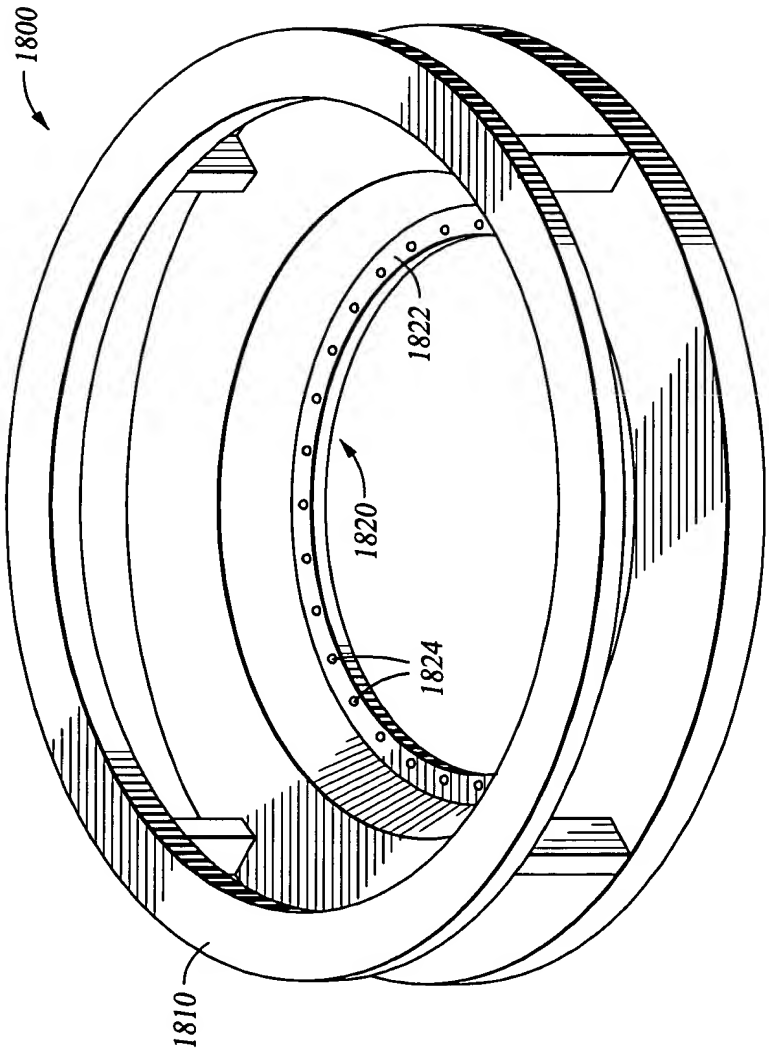


Fig. 18

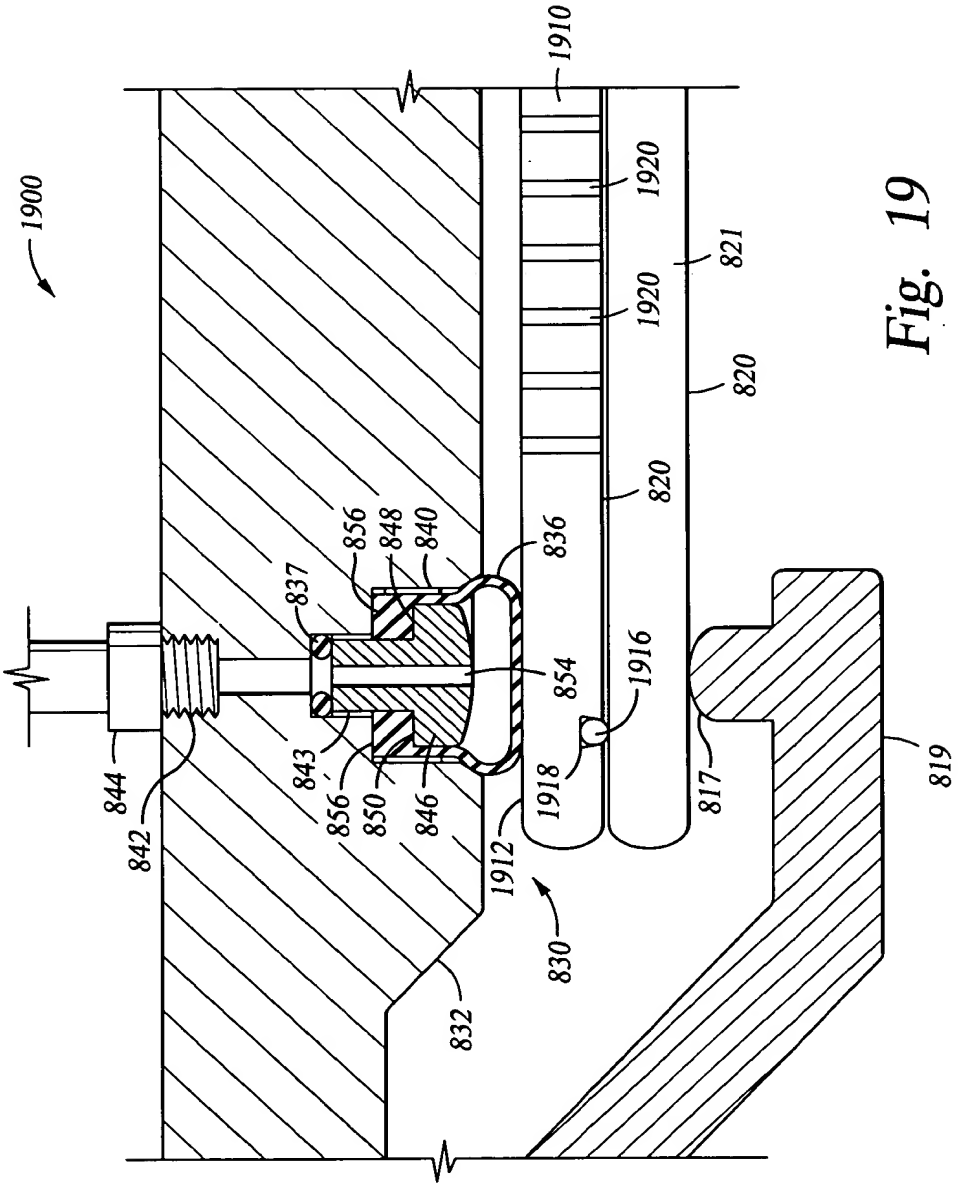

1900
1910
1920
1920
821
820
820
836
856
848
840
837
854
1916
1918
844
842
843
856
850
846
1912
830
832
817
819

Fig. 19

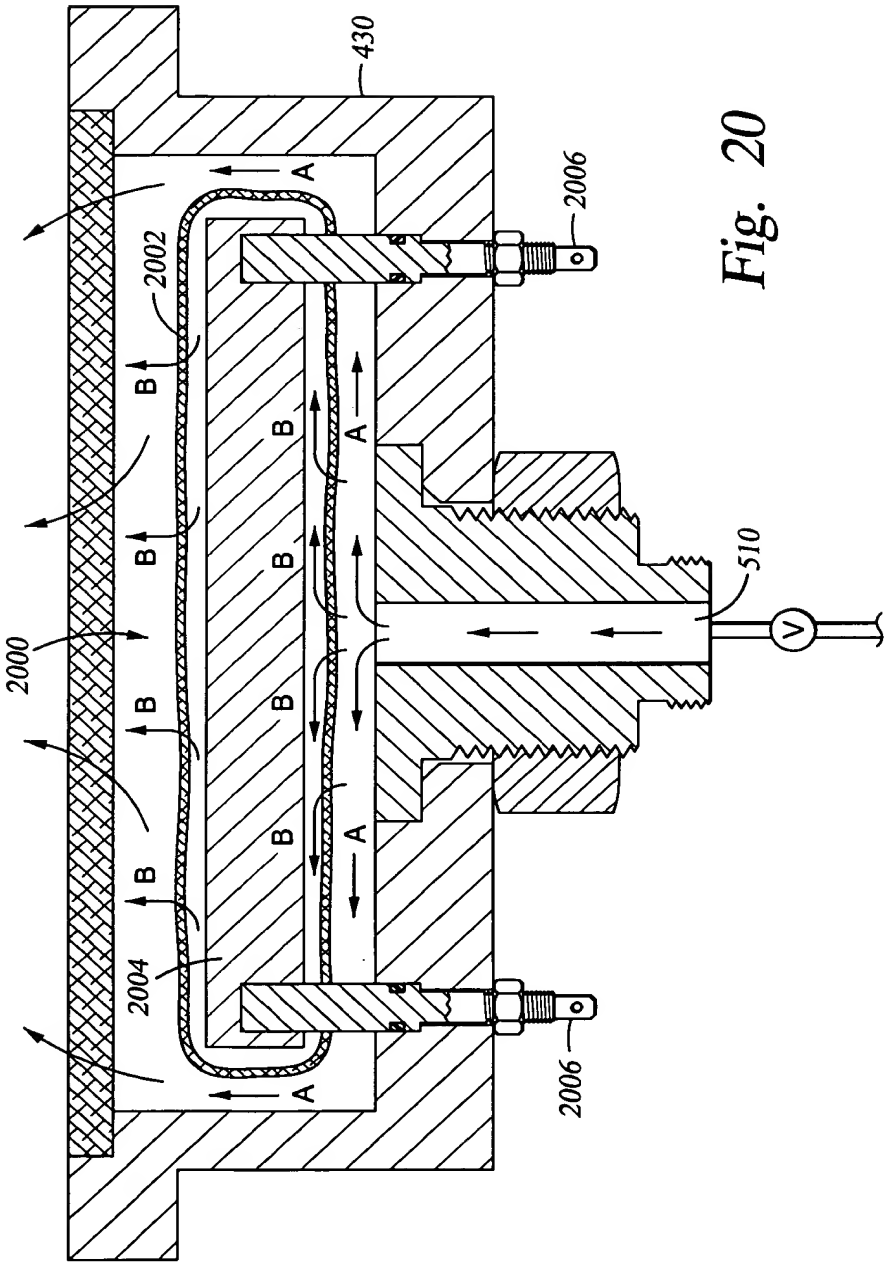


Fig. 20

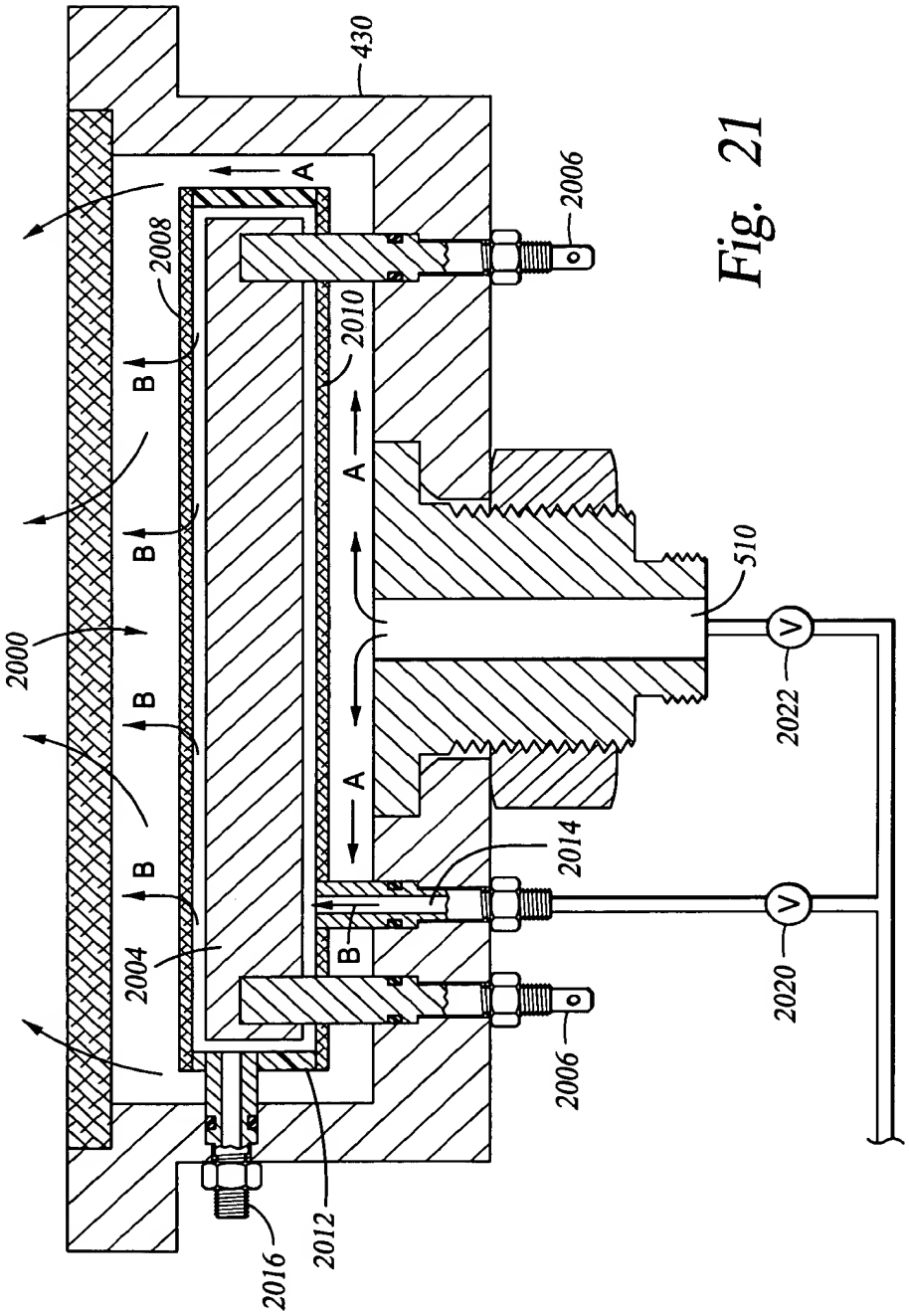


Fig. 21

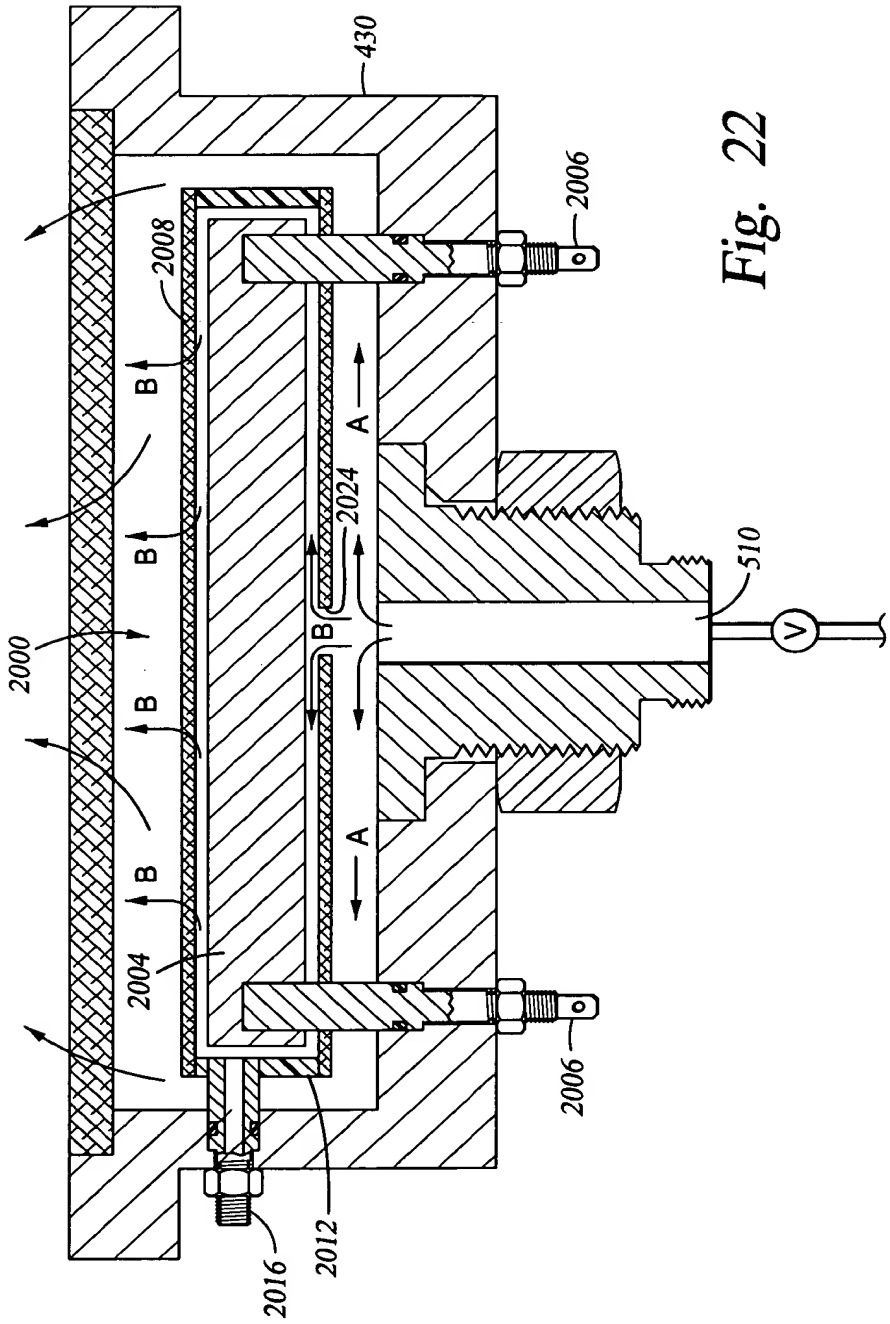


Fig. 22

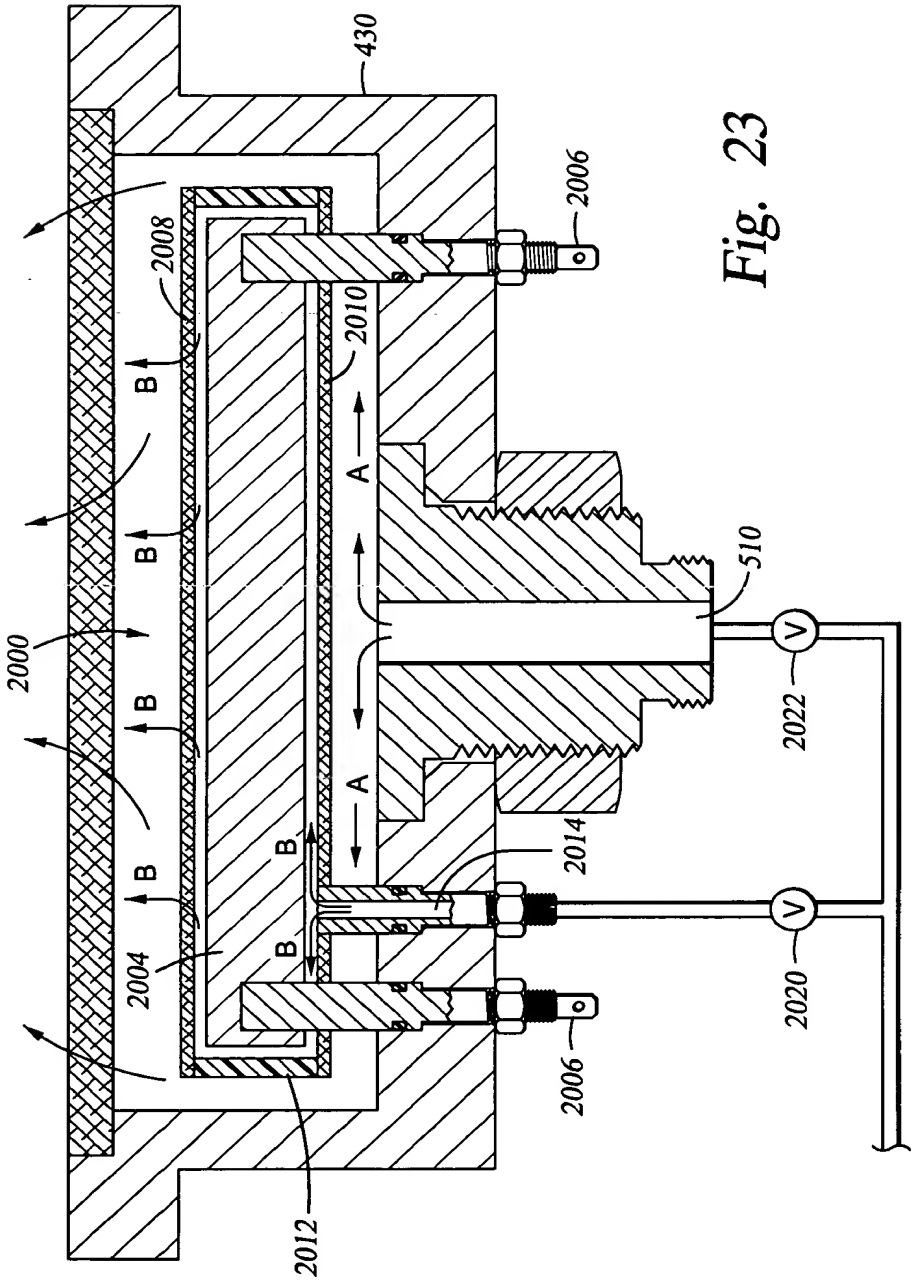


Fig. 23

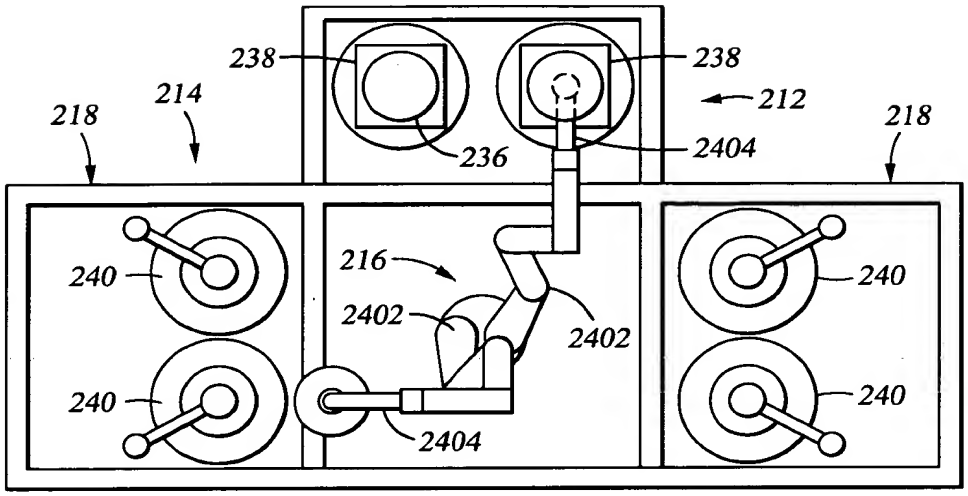

238
238
212
214
218
218
236
2404
240
216
240
2402
2402
240
240
2404

Fig. 24

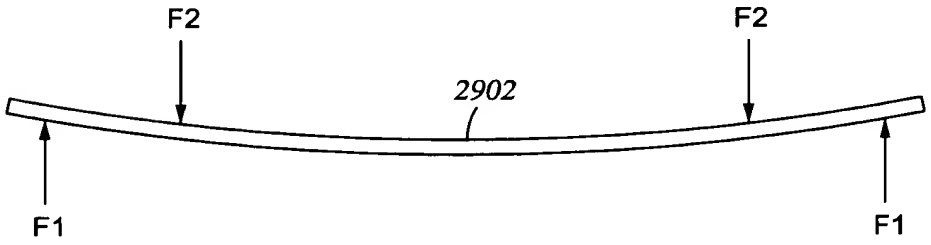
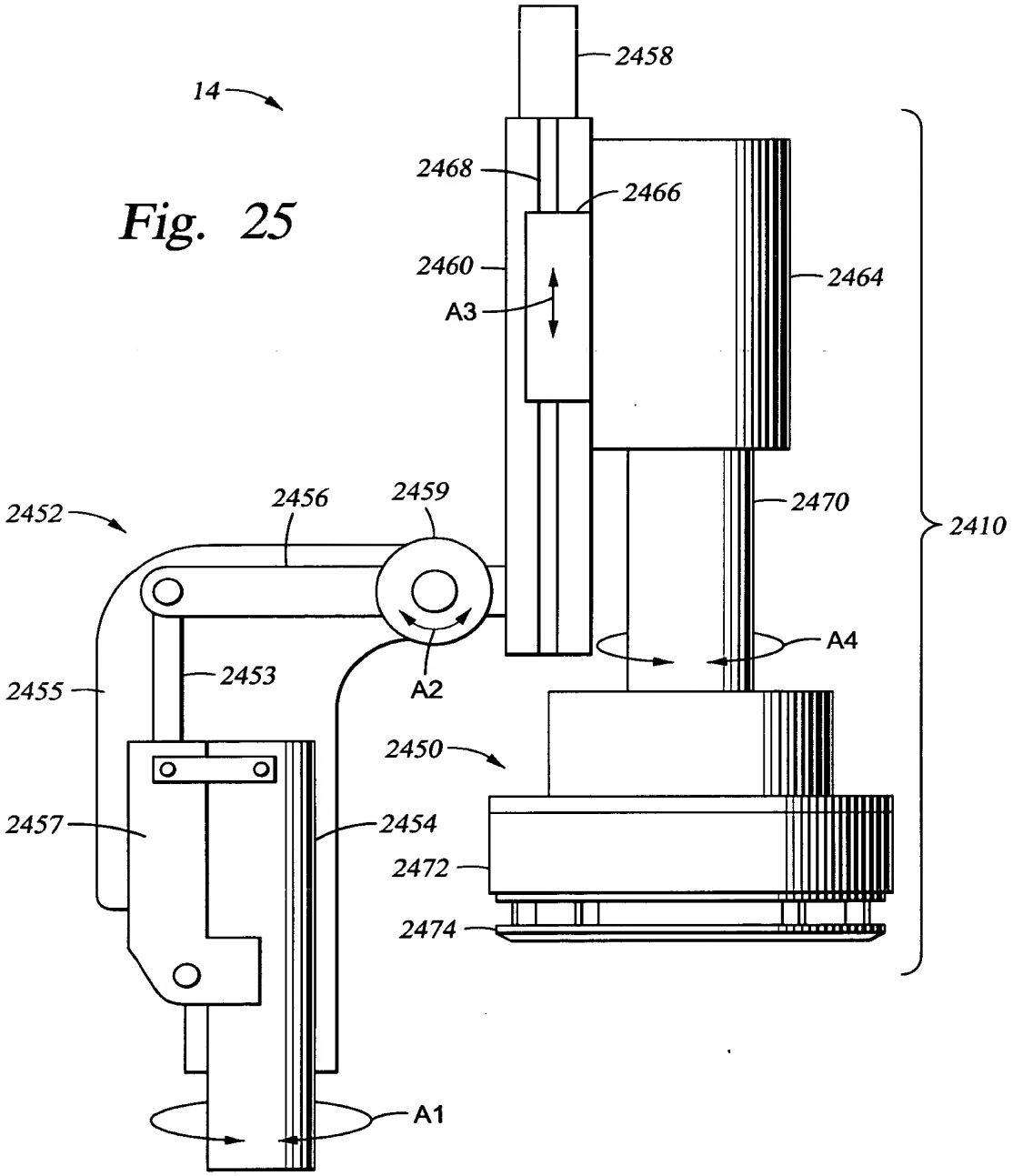

F2
F2
2902
F1
F1

Fig. 29

Fig. 25


14
2458
2468
2466
2460
A3
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2452
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2470
2410
A4
2455
2453
A2
2450
2457
2454
2472
2474
A1

Fig. 26A

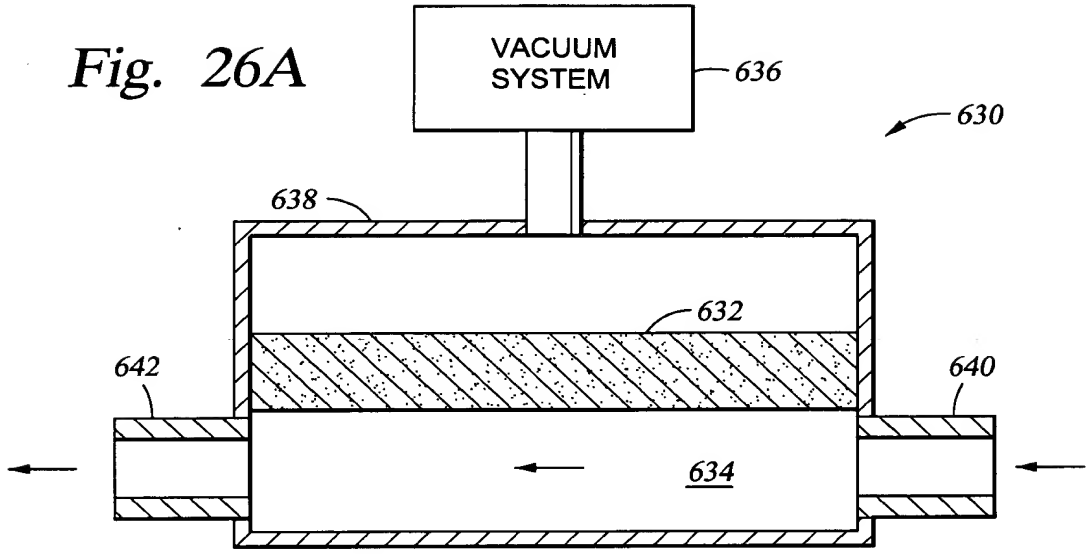
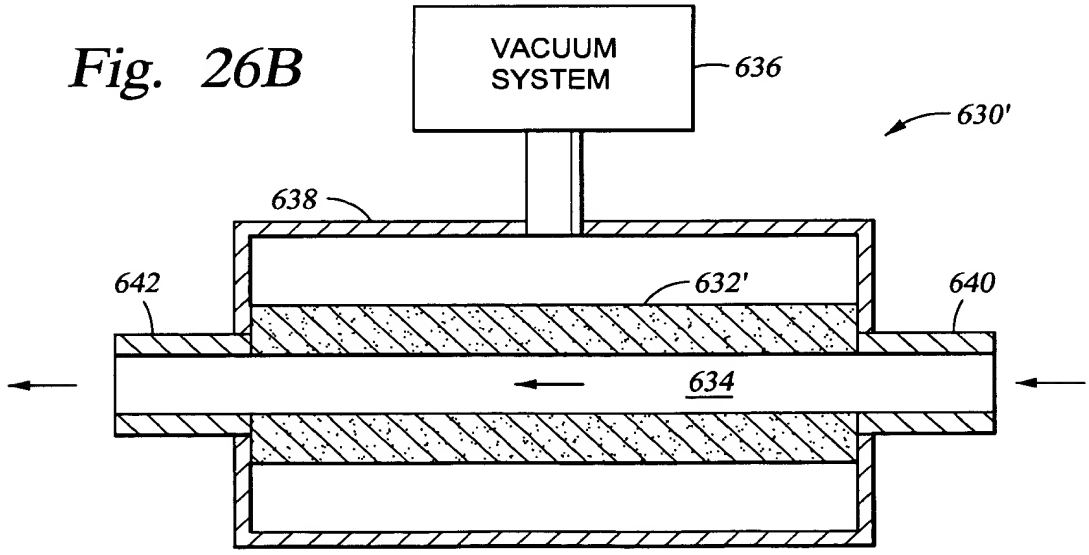
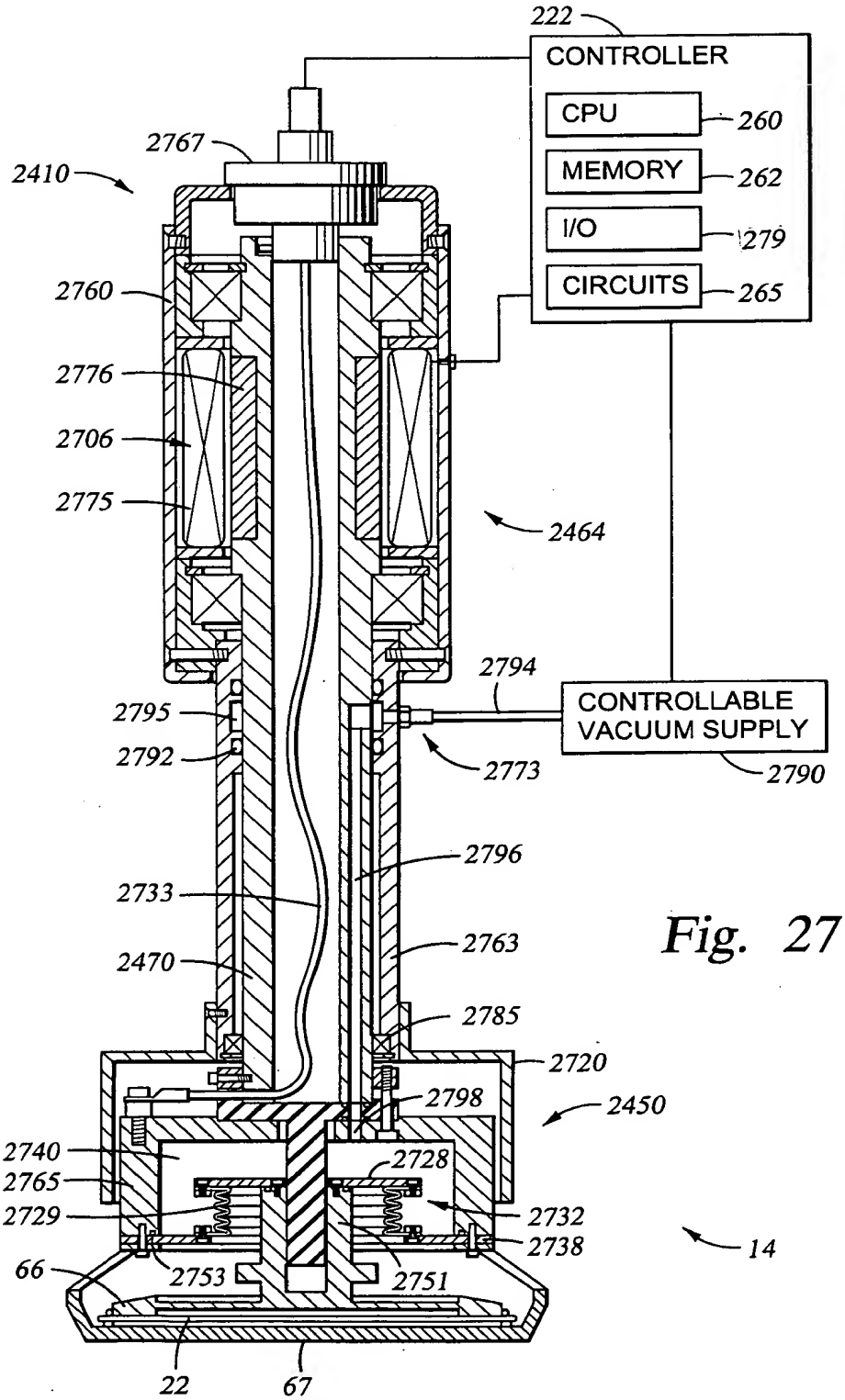


Fig. 26B




222
CONTROLLER
CPU
260
MEMORY
262
I/O
279
CIRCUITS
265
2767
2410
2760
2776
2706
2775
2464
2794
CONTROLLABLE VACUUM SUPPLY
2790
2795
2792
2773
2796
2733
2763
2470
2785
2720
2798
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2728
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2729
2732
2738
14
66
2753
2751
22
67

Fig. 27

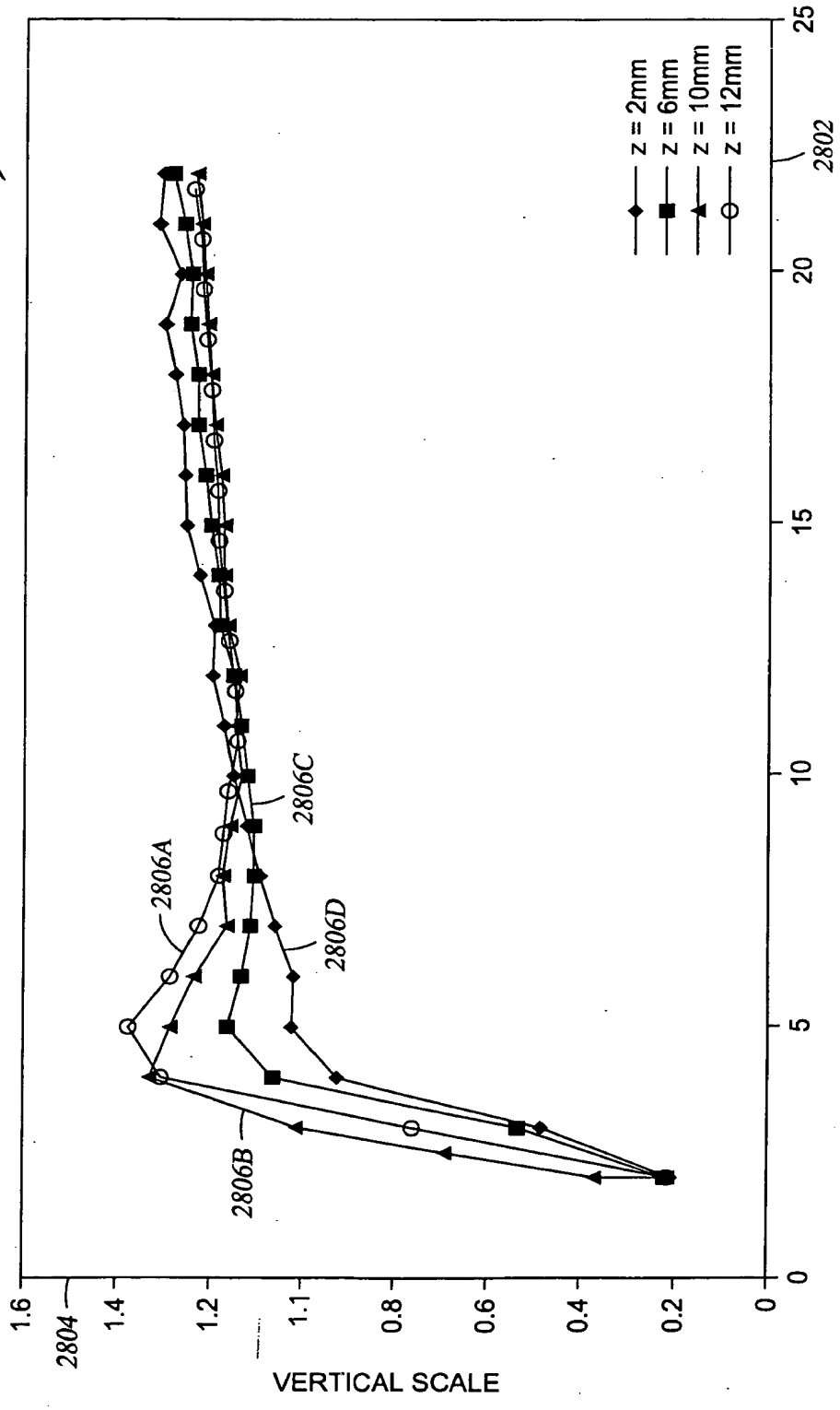
2800
2802
2804
2806A
2806B
2806C
2806D
z = 2mm
z = 6mm
z = 10mm
z = 12mm
DISTANCE FROM EDGE (mm)
VERTICAL SCALE
0
5
10
15
20
25
0.2
0.4
0.6
0.8
1.1
1.2
1.4
1.6

Fig. 28